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Outcome of *Jalaukavacharan* (Medicinal leech therapy) in varicose vein– A Case Report.

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ABSTRACT

Introduction: Varicose veins are abnormally thick, enlarged, swollen, twisted veins characterized by aching pain in the calf region, leg and ankle associated with swelling and itching. It was found that up to 15% of men and 25% of women have visible varicose veins. Most common complication of the varicose vein is venous ulcer. The treatments are not only expensive but also carry various risks for the patient, such as vascular or nerve injuries along with higher recurrence rate.

Case Report: 42 years old homemaker visited the Outdoor Patient Department of Panchakarma Department of National Institute of Ayurveda, Jaipur with complaints of pain, swelling and dilated superficial veins in left leg since nine months. The patient was treated on the line of management of *Siragranthi*. *Acharya Vagbhatta* indicates *Jalaukavacharan* for *Raktaj Granthi*. Six sittings of *Jalalukavacharan* (~Medicinal leech therapy) was done to the patient. The treatment showed marked relief in swelling and pain. Skin discoloration, tortuosity and itching was significantly reduced.

Conclusion: *Jalalukavacharan* is effective, less costly and short time procedure. The results need to be studied in more number of patients for better assessment.

Keywords: *Jalalukavacharan*; Medicinal leech therapy; *Siragranthi.*

INTRODUCTION

Varicose veins are abnormally thick, enlarged, swollen, twisted veins occurring most commonly on thighs and legs. The common symptoms of varicose veins are aching pain in calf and leg, ankle swelling, itching, and complications like eczema, superficial thrombophlebitis, and ulceration. Predisposing factors for varicose vein include prolonged standing, maladjustment to the evolutionary changes, constrictive tight clothing, femoral thrombosis and heredity. It was found that up to 15% of men and 25% of women have visible varicose veins.[1]

Several treatment options are available for varicose veins such as medications, endovenous laser treatment, ultrasound guided foam sclerotherapy, compression hosiery, surgical interventions, vein bypass .[2,3,4] Failure of adequate management can lead to venous ulcer, risk likely to increase with age [5] with peak prevalence at the age of 60 to 80 years.[6] Though the above mentioned treatment methods are extensively practiced, but are associated with high cost and treatment related complications like

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vascular or nerve injury and higher recurrence rates.[7] This pitfall can be overcome by adopting Ayurveda based ancient treatment modality "*Jalaukavacharan"* which is superior than existing methods in terms of disease cure and patient comfort.

On the basis of signs and symptoms varicose vein can be correlated with *Siragranthi*. Ayurveda explains *Siragranthi* as an elevated tortuous vein manifested due to vitiated *Vata* in the people who indulge in excessive *Vyayama*.[8]

CASE REPORT

42 year old housewife presented with nine months history of pain, swelling and dilated superficial veins in left leg came to Outdoor Patient Department (OPD) (Reg. no. 42618062018) of *Panchakarma* Department, National Institute of Ayurveda and Jaipur, India. Dull aching pain was present from calf to dorsum of the left leg. There was mild ankle swelling along with burning sensation and itching. Symptoms aggravated by long standing, after heavy work, during evening hours, relieved by elevation of the leg. There was no past history of trauma, diabetes, hypothyroidism, surgery and addiction. There was no family history of venous thrombosis. On examination there was tenderness in left fore foot and calf along with presence of dilated bluish reticular veins. Mild swelling was noted at left ankle. Doppler ultrasound of her left leg confirmed varicosity of the long saphenous vein along with incompetent perforator in distal calf medially.

Examinations:

Patient was treated at *Panchakarma* Department of National Institute of Ayurveda. *Astavidha Pariksha* and systemic examination was done**.** [Table 1]. Routine Examination such as CBC, ESR, Serum Uric acid, RA factor, CRP, FBS, LFT, RFT, Lipid profile, TFT , CT, BT and Urine Routine Examination (RE) was within normal limits. *Astavidha Pariksha* was done. *Nadi* was of *Pittaj* type, *Akriti* of patient was *Madhyama* other examination such as *Mala*, *Mutra*, *Jivha*, *Sabda*, *Sparsha* and *Drika* was found normal. Severity of varicosity was classified as C3 category using CEAP (clinical- etiological- anatomical- pathophysiological) classification.[9][Table 2] The patient was treated on the line of management of *Siragranthi.* [10]

Table 1. Systemic examination

Blood Pressure	130/90 mm of hg
Temp	98.8 ^{0}F
Pulse	76 bpm
Respiratory Rate	18/min
Weight	78 kg
Height	5 feet 7 inches
Sleep	Sound
Gait	Unchanged
Ankle oedema	Present in left leg
Bluish discoloration	Present in left leg
Prominent Reticular vein	Present in left leg
Tortuosity of vein	Absent
Ulceration	Absent

Table 2. CEAP Classification

CEAP Clinical Score	Description
Class 0	No visible or palpable signs of venous disease
Class 1	Telangiectases or reticular veins
Class 2	Varicose veins
Class 3	Edema
Class 4	Skin changes ascribed to venous disease (e.g. pigmentation, venous eczema, lipodermatosclerosis)
Class 5	Skin changes as defined above with healed ulceration
Class 6	Skin changes as defined above with active ulceration

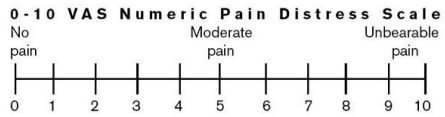
Interventions:

Patient was subjected for *Jalaukavacharan* (~Medicinal leech therapy) [Table 3]. Patient was explained about the procedure and written consent was taken. All the necessary investigations like BT, CT, HB%, HIV, HBsAg etc. were done. Vitals of the patient were noted. *Jalauka* (~Medicinal leeches) were kept in *Haridra* solution (Turmeric) for 5 minutes before the application. Patient was kept in comfortable position and three *Jalauka* were applied at left lower limb. As soon the *Jalauka* started sucking the blood, small thin gauze was kept over them. After *Jaluaka* got detached from the sucking points they were again kept in *Haridra* solution and proper *Vamana* (~Emesis) was done. After *Sodhana*, *Jalauka* were kept in a container containing fresh water. Container was labelled with patient's name so that they can be reused. Proper bandaging at the bleeding site was done. Four sittings of *Jalaukavacharan* was done, each followed by one week gap. The bite area was observed routinely for any swelling, ulcer or inflammations. Proper position of the legs and *Pathya* regimen was advised to the patient.

Table 3. Interventions

Date	Intervention
23/08/2018	*Jalaukavacharan (*Application of Medicinal leeches)
30/08/2018	*Jalaukavacharan (*Application of Medicinal leeches)
7/08/2018	*Jalaukavacharan (*Application of Medicinal leeches)
14/08/2018	*Jalaukavacharan (*Application of Medicinal leeches)

Table 4. Grading of Subjective Parameters.

Symptom	Criteria	Grade
Sotha (Swelling)	Absent Mild Moderate Severe	0 1 2 3
Tortuosity	Absent Few vein dilated Multiple dilated veins Severely dilated veins involving leg and calf	0 1 2 3
Discoloration	Absent Mild bluish patches over skin Moderate blackish patches of skin Markedly distributes bluish patches over skin	0 1 2 3
Itching	Absent Mild Moderate Severe	0 1 2 3
Pain by Visual analogue scale (VAS)		

Assessment Criteria and Outcomes:

Assessment was done based on the Signs and symptoms [Table 4]. After completion of treatment there was marked relief in pain. Discoloration of the skin was significantly reduced.[Table 5] Patient felt ease on long standing, walking and during her daily activities .

1

2

3

Figure 1. Dilated superficial veins with bluish discoloration of the skin . **Figure 2**. Application of *Jalauka* (~Medicinal leech therapy) . **Figure 3**. Reduction of bluish discoloration after treatment.

Table 5. Assessment before and after treatment.

	Before treatment	After treatment: 2nd Seating of *Jalaukavacharana*	After treatment: 4th seating of *Jalaukavacharana*
***Sotha* (Swelling)**	2	1	0
Tortuosity	2	2	1
Skin Discoloration	3	2	1
Itching	2	2	1
Pain (by VAS)	6	3	1

Numerical values were used for assessment as per grading criteria [Table 4].

DISCUSSION

Surgical and para surgical cases are very well defined in classical texts of *Ayurveda*. Ancient texts described the details of *Jalaukavacharan* which is being practiced in Ayurveda system of medicine since long ago. In recent days leech therapy has been legally approved in some western countries such as Europe and Germany.[11]

Symptoms of varicose vein resembles with *Sirajagranthi* in Ayurveda. *Sirajagranthi* shows symptoms like *Sira Sankocha* (~tortuous vein), *Sira Vakrata* (~irregular surface and twisting of vein), *Sira Utsedha* (~elevation of vein), *Vishoshana* (~rough and hard vein). Accumulation of *Rakta* and vitiation of *Vata* leads to the dilation and elevation of veins along with tortuosity and pain. *Raktamokshana* (bloodletting) is the most common treatment of choice where there is involvement of *Raktadushti*. *Jalaukavacharan* is one of the types of *Raktamokshana*. *Jalauka* is also indicated in the *Grathitha* and *Avagadha Rakta* (~clotted and thick blood).

Leech's saliva has analgesic action, blocking certain steps of the regular pain evolving cascade by counteracting cytokines with anti-inflammatory agents.[11] Saliva of leech contains histamine, serotonin, steroid hormones, enzymes, protease inhibitor and anti-microbial agents along with hirudin, factor Xa inhibitor, destabilize and hyaluronidase which have anticoagulant, thrombolytic, vasodilator, anti-inflammatory effects and also helps to enhance the blood circulation.

No any complications like bleeding, hematoma etc. were seen after the application of leech. *Jalaukavacharan* results in local hyperaemia, increases the permeability of the cell and improves tissue regeneration and blood circulation.[12]

Gradual improvement in symptoms were found during the course of treatment. Pain was markedly relieved. Bluish

discoloration present at the dilated vein was reduced considerably.

CONCLUSIONS

Jalaukavacharan shows symptomatic relief in varicose veins. This case study indicates that when treatment is done on the basis of Ayurveda guidelines significant improvement can be obtained. The results need to be studied in more number of populations for better assessment.

REFERENCES

1. Callam MJ. Epidemiology of varicose veins. British journal of surgery. 1994 Feb;81(2):167-73. [https://doi.org/10.1002/bjs.1800810204]
2. Jia X, Mowatt G, Burr JM, Cassar K, Cook J, Fraser C. Systematic review of foam sclerotherapy for varicose veins. British Journal of Surgery: Incorporating European Journal of Surgery and Swiss Surgery. 2007 Aug;94(8):925-36. [https://doi.org/10.1002/bjs.5891]
3. Siribumrungwong B, Noorit P, Wilasrusmee C, Attia J, Thakkinstian A. A systematic review and meta-analysis of randomised controlled trials comparing endovenous ablation and surgical intervention in patients with varicose vein. European journal of vascular and endovascular surgery. 2012 Aug 1;44(2):214-23. [https://doi.org/10.1016/j.ejvs.2012.05.017]
4. Daw DJ, Acosta GM, Brustad JR, inventors; Endovascular Inc, assignee. Apparatus for in situ saphenous vein bypass and less-invasive varicose vein treatment. United States patent US 5,658,282. 1997 Aug 19.
5. Bergqvist D, Lindholm C, Nelzen O. Chronic leg ulcers: the impact of venous disease. Journal of vascular surgery. 1999 Apr 1;29(4):752-5. [https://doi.org/10.1016/S0741-5214(99)70330-7]
6. Callam MJ, Harper DR, Dale JJ, Ruckley CV. Chronic ulcer of the leg: clinical history. Br Med J (Clin Res Ed). 1987 May 30;294(6584):1389-91. [PMID: 3109669]
7. Critchley G, Handa A, Maw A, Harvey A, Harvey MR, Corbett CR. Complications of varicose vein surgery. Annals of the Royal College of Surgeons of England. 1997 Mar;79(2):105. [PMID: 9135236]
8. Shastri A, editor. Sushruta Samhita. 1st ed. Vol. 1. New Delhi: Chaukhambha Publications; 2014. *Nidana Sthan, Chapter 11, Verse 8-9*. p. 341
9. H.G. Beebe et. al. Classification of chronic venous disease of the lower limbs: a consensus statement. Eur J Vasc Endovasc Surg. 1996;12:487-492
10. Tripathi B, editor. Astangahridyam. 1st ed. Vol 1. New Delhi chaukhamba Publishing House;2014. *Uttar Sthana*, *Chapter 30*, *Verse 3-4*, p. 1105
11. Hildebrandt JP, Lemke S. Small bite, large impact-saliva and salivary molecules in the medicinal leech, Hirudo medicinalis. Naturwissenschaft en. 2011;98:995–1008.
12. Koeppen D, Aurich M, Rampp T. Medicinal leech therapy in pain syndromes: a narrative review. Wiener Medizinische Wochenschrift. 2014 Mar 1;164(5-6):95-102.

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